

FOOD HABITS OF TURKEY VULTURES IN WEST TEXAS

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ABSTRACT.—Ninety-one casting pellets of the Turkey Vulture (*Cathartes aura*) were collected from a roost in El Paso County, Texas, in June 1980 and June–September 1982. Analysis revealed mammalian hair and small bone fragments in 100% of the pellets, reptilian scutes and small bones in 83.5%, and avian feathers and small bone fragments in 44%. Presence of arthropod remains and vegetative matter was minimal. Hair of leporids and mustelids was most common. Diversity and distribution of taxa constituting food items show Turkey Vultures to be opportunistic scavengers covering a variety of local habitats.

Reports of food habits of the Turkey Vulture (*Cathartes aura*) have been either anecdotal (Green 1927; Kempton 1927; Hamilton 1941; Scott 1941) or focused on certain aspects of feeding behavior (Mueller and Burger 1967; Glading and Glading 1970; Jackson et al. 1978; Stewart 1978). Pellet casting was reported by Rea (1973) and Davis (1983). Paterson (1984) focused specifically on food items from pellets in Virginia. Yahner et al. (1986) and Coleman and Fraser (1987) provided pooled data from pellets of both Turkey and Black vultures (*Coragyps atratus*) in Pennsylvania and Maryland. This study focuses on food habits of Turkey Vultures in Trans-Pecos Texas. The species is the only common cathartid in the study area.

STUDY SITE

The study site was situated in Hueco Tanks State Historical Park, located approximately 40 km northeast of El Paso, Texas. The park occupies an area of approximately 4.3 km² and is comprised mainly of 3 igneous rock cliffs. The park serves as a roosting site for about 100 vultures.

MATERIALS AND METHODS

Ninety-one pellets were collected in June 1980 and June–September 1982. Pellets were weighed and length in mm recorded. Non-hair matter was removed first and weighed.

Hair matter was immersed in CCl₄ to remove oils and allowed to air dry on a metal tray. Hairs were mounted on glass slides using clear double-coated tape and covered with a coverslip. A minimum of 100 hairs were analyzed from each pellet. Medullary configuration was the primary criterion for hair identification. Hair samples were identified by the use of keys provided by Mayer (1952), Stains (1958) and Moore et al. (1974), and comparison with hair reference samples obtained from the departmental collection.

RESULTS

Most pellets resembled a loose mass of hairs and other matter; others were more compact resembling accipitrid pellets. Mean pellet length was 38 mm

(range 10–92 mm) and mean weight was 1.36 g (range 0.12–6.49 g).

Mammalian remains were present in all pellets. Mammalian skeletal remains (bone fragments and rodent teeth) were present in 18 pellets (20%). Reptilian remains were found in 76 pellets (83.5%) and consisted of scutes and bones. Avian remains were present in 40 pellets (44%) and included small fragments of contour feathers, whole semiplume and down feathers and bone fragments (Table 1). A small amount of arthropod remains, mostly from insects, were present in 11 pellets (12%) and consisted of parts of exoskeletons. Vegetative matter was negligible. Non-hair matter constituted a mean of 9% of pellet weight (range 0.4–79.4%).

DISCUSSION

Turkey Vultures in this area primarily consume small to medium-sized carrion. Stewart (1978) and Coleman and Fraser (1987) reported that where Turkey and Black Vultures coexist, the former confine themselves to smaller carrion, while the latter fed on larger carcasses. Turkey Vultures in the El Paso area also feed on larger carrion (Table 1). Davis (1979) reported that in west Texas carcasses of wild and domestic ungulates accounted for 15–24% of the food consumed by Turkey Vultures observed in the area. Paterson (1984) and Yahner et al. (1986) reported high frequencies of ungulate hairs in vulture pellets. The fact that hairs of ungulates are rare in vulture pellets from Hueco Tanks may reflect the low availability of wild and domestic ungulates in the study area.

Presence of sorcid hairs is unusual considering their small size. Paterson (1984) also reported sorcid hairs and commented positively on the ability of Turkey Vultures to locate such minute sources of food. The presence of small mammals was also high

Table 1. Percent occurrence of taxa from animal food identified in 92 turkey vulture pellets.

TAXA ¹	% OCCUR- RENCE
Class Mammalia	
Family Leporidae	89.0
<i>Sylvilagus auduboni</i> (Desert Cottontail)	23.0
<i>Lepus californicus</i> (Blacktailed Jackrabbit)	22.0
Family Mustelidae	76.9
<i>Mustela frenata</i> (Longtail Weasel)	22.3
<i>Mephitis mephitis</i> (Striped Skunk)	37.3
<i>Taxidea taxus</i> (Badger)	26.3
<i>Spilogale gracilis</i> (Spotted Skunk)	9.9
<i>Conepatus mesoleucus</i> (Hognose Skunk)	3.3
Family Cricetidae	25.0
<i>Neotoma</i> spp. (Woodrat)	20.8
<i>Onychomys</i> spp. (Grasshopper Mice)	11.0
<i>Peromyscus</i> spp. (White-footed Mice)	8.8
<i>Reithrodontomys megalotis</i> (Western Harvest Mouse)	7.7
Family Sciuridae	24.0
<i>Eutamias</i> spp. (Chipmunks)	1.1
Family Heteromyidae	
<i>Dipodomys</i> spp. (Kangaroo Rats)	13.2
<i>Perognathus</i> spp. (Pocket Mice)	11.0
Family Cervidae	
<i>Odocoileus</i> spp. (Mule and White-tailed deer)	7.7
Family Muridae	
<i>Rattus rattus</i> (Black Rat)	9.9
<i>Rattus norvegicus</i> (Norway Rat)	5.5
<i>Rattus</i> spp. (Rats)	14.3
Family Geomyidae	
<i>Thomomys</i> spp. (Pocket Gophers)	8.8
Family Canidae	5.5
<i>Vulpes macrotis</i> (Kit Fox)	2.2
<i>Canis latrans</i> (Coyote)	2.2
<i>Urocyon cinereoargenteus</i> (Gray Fox)	1.1
Family Bovidae	
<i>Bos taurus</i> (Cattle)	7.7
Family Soricidae	
(Shrews)	1.1
Family Procyonidae	
<i>Bassariscus astutus</i> (Ringtail)	1.1
Class Aves	44.0
Order Passeriformes	
(Passerine birds—small)	2.2
Class Reptilia	
Suborder Lacertilia	
Family Iguanidae	
<i>Sceloporus</i> spp. (Spiny Lizards)	6.6

Table 1. Continued.

TAXA ¹	% OCCUR- RENCE
<i>Cnemidophorus</i> spp. (Whiptail Lizards)	9.9
<i>Phrynosoma cornutum</i> (Texas Horned Lizard)	2.2
Suborder Serpentes (small size)	3.3
Family Colubridae	45.0
<i>Arizona elegans</i> (Glossy Snake)	3.3

¹ Remains were identified to lowest category based on food item.

($\leq 27\%$). Yahner et al. reported that small mammal hairs were present in 16% of pellets. Coleman and Fraser (1987) found presence of small mammals in only 5% of pellets.

Davis (1979) mentioned two occasions of Turkey Vultures feeding on rattlesnakes (*Crotalus* spp.). No remains from viperid snakes were found in pellets. Some lizards found in the pellets may have been contained in the stomachs of colubrid snakes consumed by vultures (Webb, pers. comm.).

Vegetative matter present in pellets seemed accidental and was attached to the outside of the pellet rather than contained within. Coleman and Fraser (1987) also considered vegetation to have been consumed accidentally, although present in 88% of the pellets. Davis (1983) and Paterson (1984) reported high incidence of vegetative remains in pellets of Turkey Vultures. Presence of arthropod remains in pellets was minimal, although Coleman and Fraser (1987) reported that Turkey Vultures actively fed on insect larvae.

Geographical distribution in the vicinity of the roost of the taxa represented in pellets, as well as the diversity of food items, indicates that Turkey Vultures are opportunistic scavengers covering a variety of local habitats. Vultures may forage as much as 74 km from the roost, as indicated by the presence of chipmunk (*Eutamias* spp.) hairs in pellets. The closest population of *Eutamias* occurs in Lincoln National Forest, New Mexico, approximately 74 km north of Hueco Tanks (Findley et al. 1975).

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